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Why is all the corn dying? Is anthracnose to blame?

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ICM News

Why is all the corn dying? Is anthracnose to blame?

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The dark green fields that carpeted Iowa's landscape this summer are very quickly turning brown indicating the end of another growing season. While this color change is not unusual, what is of concern is just how quickly it is occurring. A lot of fingers are being pointed at anthracnose top dieback and/or stalk rot.

Anthracnose top dieback and stalk rot

Anthracnose is caused by the fungus, *Colletotrichum graminicola.* Infection of the corn plant by the fungus results in anthracnose leaf blight, top dieback and/or stalk rot.

Earlier this growing season, anthracnose leaf blight was prevalent in many cornfields in

Iowa. While there is no correlation between anthracnose leaf blight and anthracnose stalk rot, the leaf blight does indicate the pathogen is present in these fields.

Anthracnose top dieback can be easily confused with maturing characteristics of some corn hybrids. Some hybrids naturally mature from the top down. Almost all the plants in a field will start to die from the flag leaf down (Figure 1).

Figure 1. Hybrid maturing from the top down.

It is extremely rare for a disease to occur across an entire field. Symptoms of top dieback occur on random plants (Figure 2) in a field. An observational trial in central Iowa showed a strong relationship between the time of anthracnose top dieback occurrence and stalk rot severity. The earlier during crop development top dieback occurred, the greater the stalk rot severity.

Figure 2. Single plant with a dead flag leaf. This may be anthracnose top dieback. Peel back the leaf sheath to look for characteristic blackening on the leaf sheath.

Stalk rots, including anthracnose stalk rot, cause premature death of corn and consequently reduce yield and impact standability. Risk of stalk rot and premature plant death increases with any plant stress that can include foliar disease, excess moisture, drought, nutrient deficiency, etc. Plant stresses that reduce photosynthesis or limit water and nutrient resources will force the plant to scavenge carbohydrates from the stalk to fill the grain.

Anthracnose stalk rot is prevalent across Iowa this growing season but not all of the "brown carpet" is due to this disease. Some of the browning may also be due to crown rots. The wet conditions that occurred in early spring likely favored infection of corn by soilborne pathogens such as *Fusarium* species. Stressful conditions during the season enable the crown rot to develop.

To determine if stalk rot is a problem in your field, do the "pinch test". At several areas in the field, pinch the lowest internode of a few corn stalks in several locations in the field. If more than 10 percent of the stalks can be pinched, schedule an early harvest since standability may be an issue.

Other factors that may be responsible

Much of the browning, however, is more likely due to premature senescence of the plant leaf tissue due to several environmental stresses during summer. For example, August and early September, while comfortable for humans, were not a particularly stress free

for corn. There were several days when night temperatures fell below 50°F, followed by several days with high daytime temperatures. In addition, rainfall was abundant across much of the state causing periods of ponded and saturated soils. This excess rainfall potentially caused nitrogen leaching and deficiencies. With all of these environmental stresses many of the corn fields around the state threw in the towel for the 2015 growing season.

Category: Crop Production | Plant Diseases

Crop:
Corn

Tags: Anthracnose | stalk rot | top dieback | premature plant death

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